

DOCKET NO: 212868US0X CONT



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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
RICARDO COZAR, ET AL. : EXAMINER: IP, SIKYIN
SERIAL NO: 09/940,481 :
FILED: AUGUST 29, 2001 : GROUP ART UNIT: 1742
FOR: FE-CO-NI ALLOY AND USE FOR :
THE MANUFACTURE OF A SHADOW
MASK

REPLY BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Responsive to the Examiner's Answer of December 17, 2004, Applicants submit
herewith a Reply Brief under 37 C.F.R. § 41.41.

REMARKS

In the remarks below, Applicant's reply to section (11) of the Examiner's Answer
corresponds to the section of the Appeal Brief to which the Examiner's Answer is directed.

IV. Status of Amendments Filed Under 37 C.F.R. § 1.116

In the Examiner's Answer it is stated that no amendment After Final was filed.
Applicants agree with the Examiner. The amendment filed on July 8, 2002, mentioned in
Applicants' Appeal Brief was not an after-final amendment.

VI. Issues

A. Whether Claims 1-18 are obvious within the meaning of 35 U.S.C. § 103 in view of patents to Inoue (U.S. 5,234,512), Fukuda (U.S. 5,236,522), Ishikawa (U.S. 4,832,908) or Kato (U.S. 5,164,021).

The Examiner's Answer includes a new ground of rejection with respect to the previous rejections of Claims 1-8 of the Office Actions mailed in 09/940,481. The Examiner's Answer provides *res judicata* as a ground of rejection of Claims 1-8 because Claims 1-8 were previously rejected in parent application 08/641,233. The rejections in 08/641,233 were appealed to the Board of Patent Appeals and Interferences (BPAI). The rejections were upheld by the Board (Appeal No. 1998-2219).

Applicants respectfully request the BPAI reconsider the rejection of Claims 1-8.

In the present Appeal, Applicants present separate and distinct arguments from those previously considered by the BPAI for why the combination of prior art is insufficient for rejecting the claims. For example, the combination of the Inoue (U.S. 5,234,512) and Fukuda (U.S. 5,236,522) patents was challenged in the previous Appeal in the 08/641,233 application on the basis that there is no suggestion to combine the references. In the present Appeal, Applicants point to contradictory disclosure in the cited prior art as grounds that Fukuda and Inoue should not be combined (e.g., Fukuda column 2, lines 58-65 where it is stated that compositions having a N content of below 0.1% would not provide improved forging adaptability). In the Appeal Brief filed on January 5, 2005, Applicants submitted that the contradictory disclosure (e.g., the teaching away in Fukuda that Mn contents of less than 0.1% may not be able to provide compositions having the desired properties) would not provide those of ordinary skill in the art with a reasonable expectation of successfully arriving at the claimed invention and therefore the combination of prior art references does not render the claimed invention obvious.

Applicants therefore submit that the rejection of Claims 1-8 remains an issue for consideration by the BPAI and respectfully request review of the rejection in view of the arguments presented in the Appeal Brief filed on January 5, 2004 and the comments herein.

Among other reasons asserted by Applicants as a basis for patentability (e.g., the withdrawal of the rejection under 35 U.S.C. §103(a)), Applicants argue on pages 10-11 of the Appeal Brief filed on January 5, 2004, that the low martensitic transformation start points recited in independent Claims 9, 16 and 18 render the claims further patentable over the prior art of record. It appears that it is the Office's opinion in the Examiner's Answer of December 17, 2004 that Examples of 4-7 of Fukuda render the subject matter of Claims 9, 16 and 18 obvious irregardless of low martensitic transformation start point (see page 8, last paragraph of the Examiner's Answer). However, Fukuda does not disclose a martensitic transformation start point of -186°C or less. In fact, Fukuda nowhere explicitly discloses or suggests that very low martensitic transformation start point can be achieved in the prior art compositions.

It appears that it is the Office's opinion that because the prior art disclosure, when considered cumulatively over all the prior art references cited in the rejection, may encompass the claimed compositions that any physical properties associated with the claimed inventions (e.g., Fe-Ni-Co alloy compositions) must be obvious and/or inherent to the prior art alloys. The Examiner's Answer appears to rely on the previous BPAI decision wherein the Board indicated that Examples 4-7 of Fukuda "reasonably appear to be essentially the same as those encompassed by the claims on Appeal". However, independent Claims 9, 16 and 18 have not previously been on Appeal and, as discussed above, there is no evidence of record that the prior art compositions have a martensitic transformation start point of -186°C or less.

Applicants provided an example alloy in the specification as originally filed (Sample A) which has a composition which may fall within the Ni, Co, Mn and Si content of

Ishikawa, and Ni, Co, Si and content of Fukuda. The martensitic transformation start point of the Sample A material is only -90°C which is substantially greater than the -186°C or less required in independent Claims 9, 16 and 18.

How can the Office assert that the prior art of record suggests a composition having a low martensitic transformation start point (i.e., -186°C or less) when none of the prior art references disclose a martensitic transformation start point anywhere near temperature recited in present independent Claims 9, 16 and 18?

Applicants therefore submit that the inventions of, for example, dependent Claims 10 and 17 are patentable over the prior art of record on the grounds that the prior art does not disclose or suggest the sub-family of compositions which contain Mn in an amount of less 0.1 wt. %, have a martensitic transformation start point of -186°C or less, and have an average coefficient of thermal expansion of from $0.65 \times 10^{-6}/K$ to $0.49 \times 10^{-6}/K$.

VI. Issues

B. Whether Claims 1-18 contain subject matter which was described in the specification in such a way as to enable one skilled in the art to make and/or use the invention within the meaning of 35 U.S.C. § 112, first paragraph.

With regards to the Office's comments in the Examiner's Answer to issue B (35 U.S.C. § 112, first paragraph rejection), it appears that the Office is asserting that 35 U.S.C. § 112, first paragraph contains a requirement that Applicants disclose how the physical property (i.e., martensitic transformation start point of less than -186°C is obtained) of the claimed shadow mask is obtained. Applicants submit that no such requirement is a part of 35 U.S.C. § 112, first paragraph. For convenience this section of the 35 U.S. patent laws is reproduced below:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled on the art to which it pertains or with which it is most nearly connected to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

On page 9 of the Examiner's Answer it is stated that there is no teaching in the present specification that the martensitic transformation start point can be obtained in a manner different from the teaching at page 5 of the present specification. The first partial paragraph on page 5 of the present specification describes how the martensitic transformation start point may be less than -50°C (page 5, line 4). The amounts of carbon and the relative ratio of Co and Ni are disclosed as factors that may be considered in preparing a composition having a low martensitic transformation start point. The specification does not indicate that this is the only way to affect martensitic transformation start point. In fact, in the table on page 7 of the specification it is clearly disclosed that alloys can be prepared having martensitic transformation start points of less than -186°C (e.g., Samples B, C and D) and having an average coefficient of expansion of from, for example, $0.65 \times 10^{-6}/\text{K}$ to $0.49 \times 10^{-6}/\text{K}$ (see dependent Claims 10 and 17).

The specification as originally filed describes maintaining the cobalt and nickel contents of the alloy composition within certain ranges together with limitations on the contents of other elements. The Table on pages 6 and 7 of the specification provide several compositions and the physical properties associated therewith. Applicants submit that those of ordinary skill in the art have sufficient guidance for preparing compositions exhibiting the claimed properties (e.g., martensitic transformation start point of less than -186°C) from the information provided in the specification as originally filed including the Table bridging pages 6 and 7.

Thus the rejection under 35 U.S.C. § 112, first paragraph is not supportable and should be withdrawn.

VI. Issues

C. Whether Claims 1, 7 and 8 are indefinite within the meaning of 35 U.S.C. § 112, second paragraph for reciting two coefficients of thermal expansion.

Applicants acknowledge the Office's withdrawal of the rejection under 35 U.S.C. § 112, second paragraph and agree that Issue C of the Appeal Brief is moot.

In summary, Applicants state that there is no disclosure or suggestion in any of the prior art relied upon by the Office that iron-nickel-cobalt alloys, shadow masks thereof or methods of forming shadow masks therefrom wherein the alloy has a low martensitic transformation start point and an average thermo coefficient as recited in Claims 9, 16 and 18 and the claims dependent therefrom.

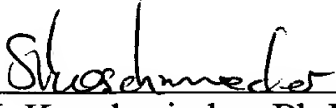
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Docket No.: 212868US0X CONT

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

RE: Application Serial No.: 09/940,481
Applicants: Ricardo COZAR, et al.
Filing Date: August 29, 2001
For: FE-CO-NI ALLOY AND USE FOR THE
MANUFACTURE OF A SHADOW MASK
Group Art Unit: 1742
Examiner: IP, SIKYIN

SIR:

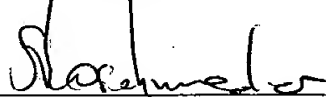
Attached hereto for filing are the following papers:

Reply Brief (6 pp.)

Our credit card payment form in the amount of \$500.00 is attached covering any required fees. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R. 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 15-0030. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

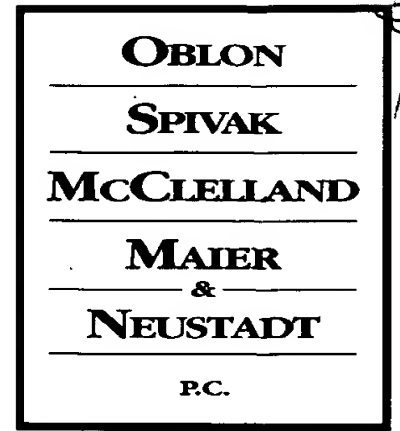
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